AMENDMENTS TO THE CLAIMS

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method [(800)] of simulating or designing a communication network supporting communication between a plurality of communication units, wherein the method comprises the step of:

employing [(855, 860)] a simulation tool [(300)] to resolve a mathematical formula relating to an operation of the communication network; [wherein the method is characterized by the step of:] and

resolving at least [(one or more)] one iterative mathematical formula in hardware within a hardware platform [(320)] of the simulation tool [(300)].

2. (Currently Amended) [(A)] The method [(800)] of simulating or designing a communication network according to claim 1, wherein the simulation tool further comprises a software platform [(310)], operably coupled to the hardware platform [(320)], and utilizes a series of mathematical formula at least one of which has no closed form solution, the method further [(characterized by)] comprising the step of:

resolving, by the hardware platform, the at least one [(or more)] mathematical formula that has no closed form solution.

3. (Currently Amended) [(A)] The method of simulating or designing a communication network according to claim 2, wherein the method [(is)] further [(characterized by)] comprises the step of:

providing, by the software platform [(310, 315)], at least one [(or more)] input signals [(330)] to the hardware platform [(320, 325)], relating to the at least one [(or more)] mathematical formula to be resolved.

4 (Currently Amended) [(A)] The method [(800)] of simulating or designing a communication network according to [(Claim 2)] or claim 3, wherein the method [(is)] further [(characterized by)] comprises the step of:

configuring the hardware platform [(310, 315)], by the software platform [(310, 315)], by setting [(one or more)] at least one parameters of the mathematical formula to be resolved, [(for example,] including at least one [(or more)] of at least one path-loss parameters and[(/or)] a parameter in the equation:

$$\frac{(E_b / N_0)_{BS\_to\_m}}{C / R_{BS\_to\_m}}$$

5. (Currently Amended) [(A)] The method [(800)] of simulating or designing a communication network according to [(Claim 3 or)] claim 4, wherein the at least one [(or more)] input signals [(330)] are in the form of an electrically variable signal, for example a voltage level, where a level of the electrically variable signal corresponds to at least one of a transmit [((or receive))] and receive power level of a communication unit operating in the communication network [(200)].

6. (Currently Amended) [(A)] The method [(800)]of simulating or designing a communication network according to claim 5, wherein the mathematical formula relates to an air-interface of a wireless communication network [(200)] having communication units that are capable of transmitting at differing radio frequency transmit powers, wherein the step of resolving comprises the step of converging a number of the transmit powers.

7. (Currently Amended) [(A)] The method [(800)] of simulating or designing a communication network according to [(any of the preceding)] claim[(s)] 1, wherein the method [(is)] further [(characterized by)] comprises the step of:

adapting an operational communication network [(200)], for example in substantially in a real-time manner, in response to at least one [(or more)] output provided by the hardware platform [(320, 325)].

8. (Currently Amended) [(A)] The method [(800)] of simulating or designing a communication network according to [(any of preceding Claims 3 to 7)] claim 7, wherein the method [(is)] further [(characterized by)] comprises the step of:

simulating a variation of a location of communication units as a function of time by adapting at least one [(or more)] input signal levels.

9. (Currently Amended) [(A)] The method [(800)] of simulating or designing a communication network according to [(any of preceding claims 3 to 8)] claim 8, wherein the [(method is further characterized in that the)] at least one [(or more)] input signal levels relate to [(any)] at least one [(or more)] of [(the following)]:

(i) A geographical area to be covered by the communication network;

(ii) A number of subscriber units for which a simulation is to be performed;

(iii) An operational status of at least one [(or more)] subscriber units, for example whether a subscriber unit is mobile or static;

(iv) A power emission level from a subscriber unit and/or base station; or

(v) An operational setting of at least one [(or more)] base station[((s))].

10. (Currently Amended) [(A)] The method [(800)] of simulating or designing a communication network [(200)] according to [(any of the preceding claims,)] claim 1, wherein the method is applied to [(a)] at least one of a wireless CDMA, TDMA, FDMA or OFDMA communication network.

11. (Currently Amended) [(A)] The method [(800)] of simulating or designing a communication network [(200)] according to [(any of the preceding Claims,)] claim 1, wherein the method is applied to at least one [(or more)] of [(the following)]:

(i) A static simulation of a wireless communication network;

(ii) A dynamic simulation of a wireless communication network;

(iii) An off-line optimization of a wireless communication network; or

(iv) At least one of an on-line [(or)] and a substantially near-real-time optimization of a wireless communication network.

12. (Currently Amended) [(A)] The method of simulating or designing a communication network [(200)] according to claim 1, and further comprising a communication network adapted to support the method [(steps of any of preceding Claims 1 to 11)] of claim 1.

13. (Currently Amended) [(A)] The method of simulating or designing a communication network according to claim 1, and further comprising a communication unit, such as an Operations and Management Centre (OMC) of a 3G communication network, adapted to support the method [(steps of any of preceding Claims 1 to 11)] of claim 1.

14. (Currently Amended) [(A)] The method of simulating or designing a communication network according to claim 1, and further comprising a storage medium storing processor-implementable instructions for controlling a processor to carry out the method [(steps of any of preceding Claims 1 to 11)] of claim 1.

15. (Currently Amended) [(A)] The method of simulating or designing a communication network according to claim 1, and further comprising a simulation tool, adapted to support the method [(steps of any of preceding Claims 1 to 11)] of claim 1.

16. (Currently Amended) A simulation tool [(300)], for simulating or designing a communication network [(200)] supporting communication between a plurality of communication units, comprising a software platform [(310)], wherein the simulation tool [((300) is characterized by)] comprises:

a hardware platform [(320)] operably coupled to the software platform [(310)] such that the hardware platform[(320)] is configured to resolve at least one [(or more)] iterative mathematical formula relating to an operation of the communication network [(200)].

17. (Currently Amended) [(A)] The simulation tool [(300)] according to claim 16 , wherein the hardware platform [(320)] is configured to resolve at least one [(or more)] mathematical formula that has no closed form solution.

18. (Currently Amended) [(A)] The simulation tool [(300)] according to claim [(16 or claim)] 17, wherein the simulation tool [(300)] comprises an interface between the software platform [(310)] and the hardware platform[(320)] to enable the software platform [(310, 315)] to provide at least one [(or more)] input signals [(330)] to the hardware platform [(320, 325)], relating to the at least one [(or more)] mathematical formula to be resolved.

19. (Currently Amended) [(A)] The simulation tool [(300)] according to [(any of preceding Claims 16 to 18)] claim 18, wherein the software platform [(310, 315)] is capable of configuring the hardware platform [(320, 325)] by setting at least one [(or more)] parameters of the mathematical formula to be resolved, for example, one or more path-loss parameters and/or a parameter in equation:

$$\frac{(E_b / N_0)_{BS\_to\_m}}{C / R_{BS\_to\_m}}$$

20. (Currently Amended) [(A)] The simulation tool [(300)] according to claim [(18 or)] 19, wherein the at least one [(or more)] input signals [((330) are] is in the form of an electrically variable signal, for example a voltage level, where a level of the electrically variable signal corresponds to at least one of a transmit [(or receive)] and receive power level of a communication unit operating in the communication network [(200)].

21. (Currently Amended) [(A)] The simulation tool [(300)] according to [(any of preceding Claims 18 to 20)] claim 20, wherein the software platform [(3100] adapts at least one[(or more)] input signal[(s (330))] in order to simulate a variation of a location of at least one [(or more)] communication unit as a function of time.

22. (Currently Amended) [(A)] The simulation tool [(300)] according to [(any of preceding Claims 18 to 21)] claim 21, wherein the at least one [(or more)] input signal level relates to any at least one [(or more)] of [(the following)]:

(i) A geographical area to be covered by the communication network;

(ii) A number of subscriber units for which the simulation is to be performed;

(iii) An operational status of at least one [(or more)] of the subscriber units, for example whether a subscriber unit is mobile or static;

(iv) A power emission from at least one of a subscriber unit and[(/or)] a base station[((s))]; [(or)] and

(v) An operational setting of at least one [(or more)] base station[((s))].

23. (Currently Amended) [(A)] The simulation tool [(300)] according to [(any of preceding claims 16 to 22)] claim 22, wherein the hardware platform comprises a plurality of substantially only two electronic components: adder functions and multiplier functions.

24. (Currently Amended) [(A)] The simulation tool [(300)] according to [(any of preceding claims 18 to 23)] claim 23, wherein the interface comprises a plurality of sample and hold functions and [(')]decoder logic[(')] building blocks.

25. (Currently Amended) [(A)] The simulation tool [(300)] according to [(any of preceding claims 16 to 24)] claim 24, wherein the hardware platform is configured to resolve an equation of a form:

$$I_m = \sum_{n=1, n \neq s}^{Nbs} P_n \times \frac{1}{L_n} + (P_s - Pm) \times \frac{1}{L_s} \times a$$

26. (Currently Amended) [(A)] The simulation tool [(300)] according to [(any of preceding claims 16 to 24)] claim 24, wherein the hardware platform is configured to resolve an equation of a form:

$$I_m = \sum_{n=1, n \neq s}^{N_m} P_m \times \frac{1}{L_n} + (P_s - P_{m\_to\_BS}) \times \frac{1}{L_s}$$

27. (Currently Amended) [(A)] The simulation tool [(300)] according to [(any of preceding claims 16 to 26)] claim 26, wherein the simulation tool is located in an Operations and Management Centre [(246)] of a wireless communication network[(200)].

28. (Currently Amended) [(A)] The simulation tool [(300)] according to claim [(16 to)] 27, wherein the simulation tool is arranged to adapt an operational communication network in substantially in a real-time manner in response to an output provided by the hardware platform.

29. (Currently Amended) The simulation tool according to claim 16, and further comprising a cellular communication system [(200)] adapted to employ the simulation tool [(of any of preceding Claims 16 to 28)].

Claims 30 – 32 are cancelled without prejudice.